

OUTSOURCING STRATEGIES AND THEIR IMPACT ON FINANCIAL PERFORMANCE IN SMALL MANUFACTURING FIRMS IN SWEDEN

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ABSTRACT

Outsourcing, i.e., the strategic use of outside resources to perform activities traditionally handled by internal staff and resources, have received increased attention in management practice around the world over recent decades. However, even though the main goal of outsourcing must be assumed to be improved financial performance, few researchers have been able to empirically establish this relationship. Furthermore, because most studies have been focusing on large firms, there is also a lack of knowledge on how small firms adopt outsourcing strategies. Therefore, the purpose of this study is to explore outsourcing strategies among small manufacturing firms, and to test how these strategies can be linked to financial performance. The study is based on questionnaire and financial data collected through a stratified sample of 700 small (<50 employees) manufacturing firms in Sweden (with a response rate of 56 percent or 400 firms). Measures of outsourcing were collected from the questionnaire, and performance indicators were collected from annual reports published one year later. We used Principal Component Analysis to identify four outsourcing strategies: Back office activities, Primary activities, Accounting activities, and Support activities. However, in line with previous research, multiple regressions did not reveal any significant relationship between these strategies and financial performance.

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KEYWORDS: Outsourcing, Financial Performance, Small Firms, Sweden

INTRODUCTION

Outsourcing, i.e., the strategic use of outside resources to perform activities traditionally handled by internal staff and resources, have received increased attention in management practice around the world over recent decades (Gottfredson *et al.*, 2005; Bhattacharya *et al.*, 2013). The reasons why firms decide to outsource vary, even if the most mentioned motive is often to achieve cost benefits and/or focus on core competencies. These two motives are often interlinked as one argument whereas managers use outsourcing in order to improve the use of capital investments by concentrating the firm's human and capital resources on its main activities (Quélin, Duhamel, 2003). Beside these main motives, other reasons for outsourcing mentioned in the literature are, to achieve best practice by acquiring access to external competencies (Kakabadse, Kakabadse, 2002) to transform fixed costs into variable costs (Alexander, Young, 1996), or as a tool in adapting to rapidly changing environments (Leavy, 2004). An increase of the firm's internal focus on its core business is often assumed to result in performance improvements, and, as a result, an increased market value. Despite some research that shows a positive effect on outsourcing on firm value (Hayes *et al.*, 2000; Jiang *et al.*, 2007), the empirical evidence of the direct effect of outsourcing on firm performance is inconclusive. Furthermore, as stated by Jiang and Qureshi (2006, p 45) in their comprehensive review of the field “*previous work on outsourcing has been primarily theoretical in nature and has relied mostly on anecdotal evidence, from case studies, surveys or other self-reported data, to*

support assertions”. Moreover, they state that (p. 46) “*we have located no studies with fully reliable quantitative indicators of performance across a statistically representative sample of firms*”.

The purpose of our study is to explore outsourcing strategies among small manufacturing firms in Sweden, and to test how these strategies can be linked to financial performance. By using a large sample of randomly selected firms, and analyzing performance with unbiased quantitative indicators, we will seek to narrow the research gap identified by Jiang and Qureshi (2006). Furthermore, by researching small firms in a Swedish context our study aims to fill two other research gaps, the lack of studies in a non-US context and the lack of studies on small firms.

First, from previous literature reviews of the field (e.g. Jiang, Qureshi, 2006; Bustinza *et al.*, 2010; Kroes, Ghosh, 2010), it is obvious that previous research in the area has been dominated by studies in a U.S. context, even though there are some noteworthy exceptions (Bustinza *et al.*, 2010; Bhattacharya *et al.*, 2013). We believe that there is a need for research from other cultural settings in order to better understand outsourcing behavior. To support this claim, there are several examples of how operations management practice differs in different cultural settings, for instance in the use of flexible manufacturing system (Darrow, 1987), the adoption of new forms of work organization (Cagliano *et al.*, 2011) or how national culture influences investments in manufacturing practices (Kalchschmidt, Mazzoleni, 2013). Hence, in order to get a more general knowledge on outsourcing strategies, and their effect on firm performance, we aim to contribute to previous outsourcing research by adding results from a Swedish context.

Secondly, despite the fact that several researchers have proposed that there is a small firm effect on the use of outsourcing (e.g. Hayes *et al.*, 2000; Gilley *et al.*, 2004), we have found no study that has investigated outsourcing and its effects on a representative sample of small and medium sized firms, SME:s, (for a precise definition of SME:s see European Commission (2005)). Further, one reason why the study of SME:s is important is the fundamental role that they play in the economic activities, and growth, in society (Storey, 1998). For instance, in Europe SMEs account for 99.8% of all enterprises, 66.8% of total employment and 57.9% of total value added generated by the non-financial business sector (Muller *et al.*, 2014).

The difference between small and large firms is not only a matter of size. One important difference often highlighted in the literature is that smaller firms usually have a lower degree of structural complexity and bureaucracy vis-à-vis larger firms (Mintzberg, 1979), which increase their speed and flexibility in information-processing capacity (Chen, Hambrick, 1995). Several studies have also found that managers of small firms are often less prone to follow formal rational decision processes than managers from larger established firms (Smith *et al.*, 1988) and, hence, rely more on heuristics in their decision making (Busenitz, Barney, 1997). Other differences frequently highlighted are that the small business environment more often is characterized by higher levels of uncertainty about the market and technological development, due to the fact that these firms often are in early phases of their development (Wu, Knott, 2006). Furthermore, differences in access to critical resources, e.g. financial and human capital (Isaksson, 2006) and organizational structure can have important effects on how and why decisions are made, partly due to the effects these differences have on agency costs and information asymmetry issues (Schulze *et al.*, 2001). Information asymmetry between owners and managers can for instance explain why operational decisions (e.g. to outsource or not) deviate from expected profit-maximizing capacity choices (Schmidt, Buell, 2014). Finally, transaction cost theory suggests that the benefits of outsourcing would be higher for SME:s than for large firms (Klaas *et al.*, 1999; Gilley *et al.*, 2004). However, as pointed out by Verbeke, Kano (2012), for many small firms traditional wealth maximizing goals are subordinated noneconomic goals such as socio-emotional values, the importance of preserving a family control etc. For example, Memili *et al.* (2011) argued that family firms that value noneconomic goals higher than economic goals favor outsourcing less than those that do not.

LITERATURE REVIEW

Relevant previous research (summarized in Table 1) has been identified through previous performed reviews (Jiang, Qureshi, 2006; Bustinza *et al.*, 2010; Kroes, Ghosh, 2010) combined with employment of different search engines for academic literature research, as Business Source Premiere, SSCI and Google Scholar.

Table 1: Sample Characteristics of Published Research on Effects of Outsourcing Included in Review

Authors	Country	Firm Size	Sample Size & Response Rate	Outcome Variable
(Hayes et al. 2000)	USA	n/a, mean sales \$7M	76 (n/a)	Stock market data
(Gilley, Rasheed, 2000)	USA	>50, mean emp. 259	94 (17%)	Self-reported
(Jiang et al. 2006)	USA	n/a (publicly traded)	51(n/a)	Annual report
(Bolat and Yilmaz 2009)	Turkey	n/a (hotels)	110 (53 %)	Self-reported
(Bustinza et al. 2010)	Spain	>20 emp	213 (21%)	Self-reported
(Kroes and Ghosh 2010)	USA	Mean 1000 emp	233 (22 %)	Self-reported
(Bhattacharya et al. 2013)	Australia	n/a	5 case study	Self-reported

This table gives a summary of the main references mentioned in the literature review with a special emphasis on sample characteristics in order to better position our research contribution (the lack of studies on small firms in Europe with reliable quantitative samples and indicators).

Based on the hypothesis that outsourcing is considered to be a value-added business Hayes et al. (2000) investigated how information systems (IS) outsourcing announcements impacted the market value of publicly traded contract-granting firms. Of special interest to this study is that they managed to find that outsourcing announcements had a significant positive effect on small firms, whereas the effect on large firms was not significant. One theoretical explanation for this difference in market reaction was that due to higher information asymmetries (see e.g. Healy, Palepu, 2001) surrounding smaller firms, the market reacted significantly more positive to value-added announcements than for larger firms. However, it is important to note that the categorization of small firms in this study is based on the median size (of sales) of a sample of publicly traded firms, and not on any generally accepted definition of small businesses.

Gilley and Rasheed (2000) examined the extent to which outsourcing of both peripheral and near-core tasks influences firms' financial and nonfinancial performance on a sample of 94 manufacturing firms in the U.S. They did not find any significant direct effect of outsourcing on firm performance. However, an indirect effect on performance was found when using strategy (cost leadership vs. differentiation) and environmental dynamism as a moderator. One argument behind the moderating effect of strategy was that firms that pursue a cost leadership strategy are, by outsourcing, able to heighten their focus on their core competencies, and improve the quality of their nonstrategic activities.

Using the same sample as in Gilley and Rasheed (2000), Gilley *et al.* (2004) analyzed the effect of outsourcing of human resource (HR) activities (payroll and training outsourcing) on firm performance. As in their previous study, no effect was found on financial performance, but there was a small positive effect on firm innovation performance (R&D outlays, process innovation and product innovations) and stakeholder performance (employment growth & morale, customer and supplier relations). Based on the argument that human resource outsourcing would have a larger effect on smaller firms (due to transaction costs) they also tested for a moderating effect of size. However, no support was found for the hypothesis that HR outsourcing would be contingent on the size of the organization – maybe due to a relatively small sample size. Jiang et al. (2006) examined the impact of outsourcing on a firm's performance based on a sample of 51 publicly traded firms. Contrary to most previous studies on outsourcing effects, they used annual report data to measure performance and tested for changes in operating performances as a result from outsourcing decisions. They provided some evidence that outsourcing improved firm's cost-efficiency (SG&A/sales and expenses/sales) but did not find any effect on firm's productivity (sales/assets and asset productivity) or profitability (ROA and profit margin).

Bolat and Yilmaz (2009) examined the relationship between the outsourcing process, and perceived organizational performance in 80 hotels in Turkey, and found support for the hypothesis that outsourcing have a positive effect on organizational performance (organizational effectiveness, productivity, profitability, quality, continuous improvement, quality of work life, and social responsibility levels). Bustinza et al. (2010) studied 213 service firms in Spain, and concluded that there is a relationship between outsourcing decisions and company performance, which is articulated via the impact of outsourcing decisions on the firm's competitive capabilities. They concluded that outsourcing encourages a development of resources that enables a sustainable competitive advantage. In another study of U.S. data, Kroes and Ghosh (2010) studied the degree of congruence (fit or alignment) between outsourcing drivers and competitive priorities, i.e., outsourcing decisions should be made in alignment with the competitive priorities of the firm. They also evaluated the impact of congruence on both supply chain performance and business performance. The main findings were that outsourcing congruence across all five competitive priorities was positively and significantly related to supply chain performance. Bhattacharya et al. (2013), using a qualitative research design, studied outsourcing in five organizations in Australia. Based on agency theory, they analyzed how the receiver and the provider of outsourcing services perceived outsourcing from different angles, e.g., areas of convergence and divergence. They found that the different parties often shared opinions regarding environmental uncertainty, conflict, information asymmetry and duration of contract, while differences were found regarding their view on degree of formality, opportunistic behavior, and mutual dependency of the parties involved, goal compatibility and switching costs.

DATA AND METHODOLOGY

The surveyed population consists of small Swedish manufacturing limited companies collected in April 2013. Companies with less than 2 or more than 49 employees, with a turnover of less than 1 or more than 80 million SEK, with a balance sheet total over 80 MSEK, those being part of a business group, with more than one registered location, and without public annual reports as from 2011 were filtered out. The sampling frame then consisted of 7 635 companies. A stratified sample was conducted in order to ensure that the sample would be representative of the population. Companies were approached randomly by phone until 200 companies with less than 10 employees (i.e., micro firms) and 200 companies with 10 or more employees (i.e., small firms) had answered the questionnaire. Furthermore, in order to further ensure the validity of the sample, all data collection regarding the questionnaire was made by phone using an external service. A total of 700 companies were asked to participate, resulting in a response rate of 57 percent. Financial performance data regarding 2013 from these 400 companies were later collected through their annual reports published in 2014. Financial performance was measured with the ratios Return on Assets (ROA) measured as income before interest expenses divided by total assets and Return on Equity (ROE) measured as net income divided by Shareholders' equity.

The questionnaire included, apart from the standard demographic and other items, a section where respondents were presented with a list of 16 activities, and were asked to indicate the firm's outsourcing intensity of each activity: (1) Bookkeeping, (2) Financial reporting, (3) Tax Processing, (4) Payroll, (5) Billing, (6) Order processing, (7) Payment processing, (8) Other administration, (9) Manufacturing, (10) Purchases, (11) Warehousing, (12) Shipping, (13) Sales force, (14) IT services/system, (15) Customer Service, and (16) Training. A scale from 1 (the activity is performed entirely within the firm) to 5 (the activity is entirely outsourced) was used for each activity. The set of 16 activities is based on Gilley and Rasheed (2000). The respondents were also asked to indicate whether the strategic orientation of the company preferably should be described as oriented towards differentiation or as cost oriented (based on Verhoef and Leeftang, 2009). For a more detailed description of the questionnaire design, see Isaksson (2013). The data were initially analyzed through a principal component analysis (PCA) in order to extract latent factors from the 16 manifest items. The latent factors can be interpreted as the basic outsourcing strategies of the companies. These factors were then used as explanatory variables in multiple regression analyses in order to explore the relation between outsourcing strategies and financial performance. The

strategic choice between differentiation or cost, as well as the logarithm of the number of employees, was used as control variables for the regressions.

RESULTS

Table 2 presents the descriptive statistics regarding the degree of outsourcing of the various administrative and other activities in the companies. On average, most activities are not outsourced to any great extent. The obvious exceptions are items #2 and #3, and, to some degree, items #14 and #16. Some activities are almost always conducted within the firm, such as items #6, #10, #11, and #15.

Table 2: Descriptive Statistics Regarding Outsourcing of Activities

	ITEM	N	MEAN	STD.DEV.	SKEWNESS	KURTOSIS
Administrative activities	1. Bookkeeping	400	2.07	1.57	1.04	-0.62
	2. Financial reporting	400	3.99	1.39	-1.05	-0.29
	3. Tax Processing	397	4.16	1.42	-1.39	0.37
	4. Payroll	397	1.64	1.34	1.83	1.65
	5. Billing	399	1.26	0.93	3.50	10.77
	6. Order processing	397	1.12	0.65	5.59	29.93
	7. Payment processing	400	1.40	1.13	2.64	5.32
	8. Other administration	394	1.36	0.92	2.76	7.07
Other activities	9. Manufacturing	381	1.85	1.25	1.31	0.58
	10. Purchases	400	1.10	0.53	6.03	37.77
	11. Warehousing	390	1.20	0.70	3.96	15.73
	12. Shipping	388	2.32	1.66	0.68	-1.28
	13. Sales force	396	1.33	0.91	2.93	7.75
	14. IT services/system	389	2.69	1.53	0.25	-1.35
	15. Customer Service	396	1.17	0.64	4.30	19.19
	16. Training	374	2.78	1.45	0.19	-1.21

This table shows descriptive statistics across the participating firms regarding outsourcing intensity for each activity. As a measure of outsourcing, respondents were asked to indicate how each of the above 16 items was handled in the company, from 1 (handled entirely internally) to 5 (operated by entirely by external party).

Barlett's test of sphericity was significant ($p < 0.001$) and the Kaiser-Meyer-Olkin measure of sampling adequacy was 0.829, indicating that the data is suitable for a PCA. The PCA was performed, and latent factors were built as averages of items. In our case, the one factor solution explains only 31.09 % of the total variance, and the analysis suggests a solution with four factors (considering eigenvalues above 1). Hence, the PCA indicates that there are four basic outsourcing strategies in these firms.

Table 4 presents the rotated component matrix from the PCA, where the 16 items are grouped into four principal components, reflecting four basic outsourcing strategies. For legibility, only the highest factor loading for each item is displayed here. The first component consists of six items with a Cronbach's alpha of 0.859. The component includes the items #1, #4, #5, #6, #7, and #8. We denote the component "Back office" since these items constitute the typical back office activities. The second component is denoted "Primary", as it includes the items #9, #10, #11, #13, and #15, that is, the activities directly related to the primary operations. Thirdly, the component "Accounting" includes items #2 and #3, which typically are performed by outside accountants. Finally, the fourth component is called "Support", as it includes activities necessary to support the primary operations in the firm, that is, items #12, #14, and #16.

Table 3: Total Variance Explained

Item	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %
1	4.97	31.09	31.09	4.97	31.09	31.09	3.70	23.13	23.13
2	2.12	13.22	44.31	2.12	13.22	44.31	2.86	17.88	41.01
3	1.57	9.80	54.11	1.57	9.80	54.11	1.93	12.06	53.07
4	1.22	7.65	61.76	1.22	7.65	61.76	1.39	8.69	61.76
5	0.98	6.12	67.88						
6	0.88	5.48	73.36						
7	0.81	5.06	78.43						
8	0.71	4.42	82.84						
9	0.56	3.49	86.34						
10	0.44	2.73	89.06						
11	0.37	2.29	91.35						
12	0.35	2.19	93.55						
13	0.32	1.99	95.53						
14	0.30	1.85	97.38						
15	0.24	1.49	98.88						
16	0.18	1.12	100.00						

This table shows the explained total variance for different number of factors in the PCA. The one factor solution explains only 31.09 % of the total variance, and the analysis suggests a solution with four factors (considering eigenvalues above 1). Hence, the PCA indicates that there are four basic outsourcing strategies in these firms.

Table 4: Rotated Component Matrix and Factor Loadings

Item	Component			
	Back Office	Primary	Accounting	Support
1	0.634			
2			0.846	
3			0.849	
4	0.781			
5	0.833			
6	0.667			
7	0.855			
8	0.740			
9		0.543		
10		0.762		
11		0.813		
12				0.713
13		0.598		
14				0.537
15		0.809		
16				0.661
Cronbach's alpha	0.859	0.777	0.759	0.341

This table shows the rotated component matrix and factor loadings in the PCA. It reveals how four factors are constructed out of the 16 items. Extraction Method: Principal component analysis. Rotation method: Varimax with Kaiser normalization.

The next step was to test for relationship between the four outsourcing strategies and financial performance. Multiple regressions with return on assets (ROA) and return on equity (ROE) as dependent variables were conducted, with the four outsourcing strategies as explanatory variables while simultaneously controlling for company size and strategic company direction. Thus, the two tested regression models were

$$ROA = \beta_0 + \beta_1 BOF + \beta_2 PRI + \beta_3 ACC + \beta_4 SUP + \beta_5 SIZ + \beta_6 STR + \varepsilon \quad (1)$$

and

$$ROE = \beta_0 + \beta_1 BOF + \beta_2 PRI + \beta_3 ACC + \beta_4 SUP + \beta_5 SIZ + \beta_6 STR + \varepsilon \quad (2)$$

where

BOF is the average tendency to outsource back office activities

PRI is the average tendency to outsource primary activities

ACC is the average tendency to outsource accounting activities

SUP is the average tendency to outsource support activities

SIZ (control variable) is the logarithm of company size (measured as the number of employees)

STR (control variable) is a dummy variable describing whether the core company strategy should be described as oriented towards costs (value = 0) or differentiation (value = 1)

In both cases, the data set was first sorted by the dependent variable and trimmed so that the highest 5 % and the lowest 5 % were excluded. Hence, each regression was based on 360 observations. The results from the regressions are displayed in Table 5 and 6. Overall, the models explain very little. There are basically no relation between outsourcing strategies and financial performance measures. The only exception is that the average tendency to outsource back office activities is negatively related to ROA, although this relation is only marginally significant. Company size is also found to be positively related to ROE, but as *SIZ* is used solely as a control variable in these analyses, the relation is of little interest in the study itself.

Table 5: Relation between ROA and Outsourcing Strategies

	<i>B</i>	<i>SE</i>	<i>T</i>	<i>P-Value</i>
(Constant)	7.46	3.05	2.44	0.015
<i>BOF</i>	-1.32	0.72	-1.83*	0.069
<i>PRI</i>	0.18	1.08	0.17	0.868
<i>ACC</i>	-0.37	0.47	-0.79	0.433
<i>SUP</i>	-0.53	0.57	-0.92	0.359
<i>SIZ</i>	2.38	1.64	1.46	0.147
<i>STR</i>	0.88	1.16	0.76	0.451

The table shows the results from the multiple regression analysis with return on assets (ROA) as dependent variable and the outsourcing strategies as explanatory variables. $F = 1.680$ ($p = 0.126$), $R^2 = 0.034$. ***, **, and * indicate significance at the 1, 5, and 10 percent levels respectively.

Table 6: Relation between ROE and Outsourcing Strategies

	<i>B</i>	<i>SE</i>	<i>T</i>	<i>P-Value</i>
(Constant)	-20.76	25.26	-0.82	0.412
<i>BOF</i>	-5.24	5.98	-0.88	0.381
<i>PRI</i>	7.98	8.92	0.89	0.372
<i>ACC</i>	-4.04	3.88	-1.04	0.298
<i>SUP</i>	3.06	4.73	0.65	0.518
<i>SIZ</i>	24.61	13.53	1.82*	0.070
<i>STR</i>	15.37	9.63	1.60	0.112

The table shows the results from the multiple regression analysis with ROE as dependent variable and the outsourcing strategies as explanatory variables. $F = 2.042$ ($p = 0.060$), $R^2 = 0.041$. ***, **, and * indicate significance at the 1, 5, and 10 percent levels respectively.

CONCLUSION AND DISCUSSION

Decisions to outsource are usually assumed to be made in order to, directly or indirectly, improve financial performance. However, previous research in this field has essentially provided no evidence of a link between outsourcing and financial performance (Gilley and Rasheed, 2000; Gilley et al., 2004; Jiang et al., 2006). However, outsourcing as an explanatory variable has usually been treated on an entirely aggregate level (e.g. Jiang et al., 2006) or divided in outsourcing of peripheral activities and outsourcing of core activities (e.g. Gilley and Rasheed, 2000). In this paper, we have provided a more detailed typology of activities for which firms make strategic outsourcing decisions, and studied the relation between outsourcing intensities and firm performance.

Since we have been studying small firms and their actual financial performance, we have taken a step towards closing the previously identified research gap in the outsourcing literature. Furthermore, besides working with small firms and true financial performance measures, this study is also characterized by a relatively large sample size, a relatively high response rate, and a phone-based data collection – facts that indicate valid and reliable results in comparison with many similar studies. However, despite our relatively large sample, we were unable to find a significant relation between outsourcing intensity and financial

performance. The study has shown that small manufacturing firms have four basic outsourcing strategies; back office activities, primary activities, accounting activities, and support activities. However, as in previously related research, no significant relationship between outsourcing intensity and financial performance was found. This suggests that there may be other types of motives behind strategic outsourcing decisions than improved financial performance, perhaps especially among small firms. Hence, we believe that future research should explore the relation between outsourcing intensity and "soft" values like, for example, stress or work satisfaction. Another area of future research would be cross-country comparisons in order to better understand how management culture in different countries affects outsourcing behavior.

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